

ART III.—*New Hymenoptera Proctotrypoidea from Victoria.*

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The material from which this paper was prepared was submitted by Mr. F. Erasmus Wilson. Six new species are proposed, three of which are placed in *Xenotoma* Foerster, a Belytid genus not previously recognised in Australia. In addition, the males of *Prosoxylabis pictipennis* Dodd (Belytidae), *Neobetyla spinosa* Dodd (Belytidae), and *Hemilexomyia abrupta* Dodd (Diapriidae) are made known.

Family SCELIONIDAE.

OPISTHACANTHA NUBILA, n. sp.

Female.—Length, 1.75 mm. Jet black, the antennae concoloured, the articulate joint of the scape yellow; coxae and femora black, the trochanters yellow, the tibiae and tarsi dusky yellow-brown.

Head normal, the vertex moderately long, and sloping gently posteriorly to the concave occipital margin; frons gently convex, from frontal aspect somewhat wider than deep, not depressed above the antennal insertion; cheeks moderately broad; eyes moderately large, bearing scattered hairs; ocelli small, wide apart, the lateral pair situated close to the eyes; head wholly smooth and polished, the cheeks and frons with scattered fine hairs, the vertex with scattered long black hairs. Antennal scape long and slender; pedicel almost twice as long as its greatest width; funicle 1 as long as the pedicel, 2 shorter than 1, one-third longer than wide, 3 quadrate, 4 small, much wider than long; club compact, joints 1-5 each twice as wide as long. Thorax about one-fourth longer than its greatest width; pronotum visible from above as a narrow line laterally, armed with a row of stout black hairs; anterior margin of scutum very broadly rounded, the median lobe anteriorly with a declivous area, devoid of pubescence, separated by a transverse groove a little in front of the anterior end of the parapsidal furrows; parapsidal furrows delicate, complete, rather wide apart; scutum and scutellum smooth, with a scattered pubescence of fine hairs and of long stout black hairs; scutellum semi-circular, with a row of punctures along its anterior and posterior margins; metanotum short, foveate, armed medially with an acute horizontal tooth; propodeum broadly and deeply divided to its base to receive the base of the abdomen, so that lateral triangular areas only are visible, the posterior angles sub-acute. Forewings rather short, extending to apex of fourth abdominal segment; rather narrow,

$3\frac{1}{2}$ times as long as the greatest width; marginal cilia moderately long, the discal cilia fine and dense; distinctly stained brownish; venation fuscous, armed with stout long hairs or bristles except on the stigmal vein; marginal vein two-thirds as long as the stigmal, which is moderately long and very oblique, the postmarginal over twice as long as the stigmal vein; basal vein marked by a thick light brown line, the median vein by a fainter line. Legs normal, the femora, tibiae, and tarsi slender; posterior tarsi no longer than their tibiae, their basal joint a little shorter than 2—5 united. Abdomen one-third longer than the head and thorax united; $2\frac{1}{2}$ times as long as its greatest width; slightly wider than the thorax; narrowed at base but not sub-petiolate, almost pointed at apex, the lateral margin regularly convex from base to apex; segment 1 as long as its basal width, which is two-thirds the posterior width, with a slight hump at base medially; 2 almost twice as long as 1; 3 one-half longer than 2, almost as long as 4—6 united; 4 somewhat longer than 5; 5 and 6 subequal; 1 strongly striate, smooth at base medially; 2 strongly striate but rather broadly smooth laterally and posteriorly; the rest smooth; 4—6 and lateral and posterior margins of 2 and 3 with fine pubescence.

Male.—Unknown.

Habitat.—Victoria: Bogong Plains, 5,000—6,000 feet, two females taken in tussocks in January, F. E. Wilson.

Holotype in the collection of F. E. Wilson. Paratype in the Queensland Museum.

A very dark species, recognised by the smooth head, scutum and scutellum with their long black hairs. In the paratype the abdomen is deformed, in that segment 2 appears as a narrow sclerite on one side only, segment 3 thus joining 1 broadly.

BARYCONUS CURTATUS, n. sp.

Female.—Length, 1.90 mm. Head chestnut-red, the vertex dusky, the eyes and ocelli black; thorax bright chestnut-red; abdomen brownish-black, the third segment orange-red; antennae black, the scape reddish-yellow, dusky toward apex; coxae clear yellow-brown, the legs suffused with dusky, the tibiae blackish.

Head normal; vertex moderately long, sloping gently from the line of the lateral ocelli to the posterior margin, which is gently concave; frons somewhat wider than deep, from lateral aspect lightly convex, not depressed above the antennal insertion, with a delicate median carina for one-half its length from the antennal insertion; cheeks broad; mandibles tridentate, the teeth acute, almost subequal; eyes moderately large, faintly pubescent; ocelli small, wide apart, the lateral pair against the eyes; head smooth, polished, with scattered small punctures bearing fine hairs; vertex with fine impressed polygonal reticulation but smooth medially behind the anterior ocellus, and narrowly against the occipital margin; mouth with short converging striae. Antennal scape long

and slender, its articulate joint long; pedicel slender, $2\frac{1}{2}$ times as long as its greatest width; funicle 1 a little shorter than the pedicel, twice as long as its greatest width, 2 somewhat longer than wide, 3 quadrate, 4 small and transverse; club compact, 6-jointed, 1—5 each twice as wide as long, 1 small, 3 slightly the widest. Thorax from dorsal aspect not much longer than its greatest width; pronotum very narrowly visible; anterior margin of scutum rather sharply convex; median lobe of scutum divided anteriorly by a transverse groove at the anterior end of the parapsidal furrows; parapsidal furrows complete, rather delicate; scutum smooth, with small scattered punctures bearing pale hairs and with a narrow line of scaly reticulation on either side at the parapsidal furrows; scutellum semi-circular, smooth, with scattered small punctures bearing fine hairs, its posterior margin finely foveate; metanotum short, transverse, smooth, declivous, not prominent; propodeum finely sculptured, very short, the posterior margin faintly concave and rather broadly divided medially, the posterior angles acute. Forewings short, reaching to posterior margin of segment 3 of abdomen; slender, four times as long as their greatest width; distinctly dusky; venation fuscous; marginal vein one-half as long as the stigmal, which is oblique and rather short, the postmarginal a little less than twice as long as the stigmal; basal and median veins marked by brown lines; hindwings almost as long as the forewings. Legs normal, slender; posterior tarsi no longer than their tibiae, their basal joint as long as 2—5 united. Abdomen one-half longer than the head and thorax united, $2\frac{1}{2}$ times as long as its greatest width, which is somewhat greater than that of the thorax; narrowed at base, almost pointed at apex, the apical segment not stylate; segment 1 a little shorter than its basal width, a little wider posteriorly than basally, somewhat raised at base but without a distinct prominence, its anterior margin straight; 2 one-half longer than 1; 3 one-half longer than 2, as long as 4—6 united, one-fourth wider than long; 4—6 gradually shortening; 1 striate, smooth medially at base; 2 strongly striate for less than its basal half; rest of abdomen smooth; 4—6 and lateral margins of 1—3 with scattered fine hairs.

Male.—Unknown.

Habitat.—Victoria: Bogong Plains, 5,000—6,000 feet, two females taken in tussocks in January, F. E. Wilson.

Holotype in the collection of F. E. Wilson. Paratype in the Queensland Museum.

Readily distinguished from other Australian species in the genus by the shorter wings.

TELENOMUS WILSONI, n. sp.

Female.—Length, 1.50 mm. Black; antennae black, the scape deep red at extreme base; coxae and femora black, the trochanters fuscous, the tibiae and tarsi bright red.

Head very wide and transverse, somewhat distinctly wider than the thorax, the vertex very thin, and descending sharply to the foveate occipital margin, which is gently concave; from frontal aspect the head is plainly wider than deep; eyes wide apart, large, bare; ocelli large, very wide apart, the lateral pair almost touching the eyes; vertex, upper frons, lateral margins of frons against the eyes, and between the ventral end of the eyes and the mouth, with fine pale pubescence, dense fine coriaceous-reticulate sculpture and obscure shallow punctures; lower two-thirds of frons, except against the eye margins, with strong transverse striae joining an ill-defined median carina; cheeks very narrow, rugose. Antennae 11-jointed; articulate joint of scape rather long and slender; scape slender, as long as the next four joints combined; pedicel twice as long as its greatest width; funicle 1 one-half longer than the pedicel, three times as long as its greatest width; 2 a little less than one-half as long as 1, a little longer than wide; 3 somewhat wider than long; club rather slender, 6-jointed, but not well differentiated from the funicle, joint 1 somewhat wider than funicle 3, wider than long, 2 the largest and sub-quadrate, 3—5 wider than long. Thorax stout, from dorsal aspect no longer than wide, from lateral aspect shorter than its height, the dorsal outline strongly convex; pronotum narrowly visible laterally; scutum somewhat convex, finely pubescent, with rather strong irregular rugose-punctate sculpture which on the posterior half medially has a definite tendency toward irregular longitudinal rugae; parapsidal furrows absent; scutellum semi-circular, strongly irregularly rugose-punctate and with fine pubescence; metanotum situated below the scutellum, a prominent transverse rugose plate which hides the short propodeum medially; propodeum short, broad, broadly hidden medially, visible as rugose lateral areas only. Forewings extending a little beyond apex of abdomen; broad, a little more than twice as long as the greatest width; distinctly fumated around the stigmal vein; marginal cilia short; discal cilia fine and dense; venation deep brown; marginal vein almost one-half as long as the stigmal, which is slender and very long, the postmarginal a little less than twice as long as the stigmal. Femora a little thickened; tibiae moderately slender; tarsi slender, the posterior tarsi a little longer than their tibiae, their basal joint as long as 2—5 united. Abdomen one-third longer than its greatest width, broad at base; segment 1 short and transverse; 2 two-thirds as long as wide; 3—6 combined two-thirds as long as 2; 1 strongly sparsely striate, its lateral margins smooth and with a few hairs; 2 at base, except laterally, with a row of foveae, densely rather finely striate for two-thirds its length, smooth for its posterior third and along lateral margins, where there are scattered hairs; 3—5 rather densely pin-punctate, each with a row of fine hairs at one-half the length.

Male.—Unknown.

Habitat.—Victoria: Eltham, thirteen females collected by F. E. Wilson, in May, associated with an ant.

Holotype in the collection of F. E. Wilson. Paratypes in the collections of the Queensland Museum, F. E. Wilson, and the author.

At once separated from the many Australian species by the lengthened first funicle joint of the antennae. I have much pleasure in naming this species after the discoverer, whose enterprise has brought to light the several new species described in this paper.

Family BELYTIDAE.

Xenotoma Foerster.

This world-wide genus, with over eighty known species, has not previously been recognised in Australia. The three forms described below, all from Victoria, may be separated by means of the following key:—

1. Larger apical spur of posterior tibiæ two-thirds as long as the first tarsal joint; petiole one-half as long as body of abdomen; recurrent vein very short *X. longispina*.
- Larger apical spur of posterior tibiæ one-third as long as the first tarsal joint; petiole not more than one-third as long as body of abdomen; recurrent vein as long as the radial 2.
2. Forewings hyaline; antennal scape a little longer than the next two joints united *X. claripennis*.
- Forewings cloudy with hyaline areas; scape as long as the next four joints united *X. variipennis*.

XENOTOMA VARIIPENNIS, n. sp.

Female.—Length, 3.40 mm. Head black; thorax blackish, the pronotum, posterior half of median lobe of the scutum, and many of the segmental sutures, deep red, the tegulae yellow; abdominal petiole blackish, the abdomen dull chestnut-brown, blackish apically, and along the lateral margins; coxae fuscous, the legs brownish-yellow, the posterior tibiae and tarsi dusky; antennae black, the scape bright testaceous, the pedicel and basal funicle joints sometimes suffused reddish.

Head from dorsal aspect transverse; from frontal aspect wider than deep; from lateral aspect the frons convex; without sculpture but with a rather dense pale pubescence; eyes very wide apart, with scattered hairs; ocelli close together; mandibles long, crossed, falcate. Antennae 15-jointed; scape slender, somewhat curved, very long, as long as the next four joints united; pedicel hardly twice as long as wide; flagellar joints filiform, 1 almost twice as long as the pedicel, 2—12 gradually shortening, 12 as long as the pedicel, the apical joint one-half longer than the preceding.

Thorax two-thirds longer than its greatest width; pronotum narrowly visible, its angles sub-acute; parapsidal furrows complete, deep, a little curved against the posterior margin; scutum and scutellum with a pubescence of rather scattered long pale hairs; scutellum somewhat declivous posteriorly, with a deep wider-than-long basal fovea; metanotum transverse, depressed laterally, the median area with a strong median carina and more delicate lateral carinae; propodeum moderately long, smooth, with scattered fine pubescence, with a strong median and lateral carinae, the posterior margin carinate and gently concave, the lateral margins carinate, the posterior-lateral angles in the form of projecting small acute teeth. Forewings long and broad; fumated, the colour being darker and blackish against the distal margin, with two large hyaline areas, one against either border in the distal half of the wing, and there is a narrow hyaline area beneath the distal portion of the submarginal vein from the junction of the basal vein; venation dark, complete; marginal vein two-thirds as long as the closed radial cell; recurrent vein as long as the radial, its apex directed to the base of the discoidal vein. Legs normal, slender, as in *claripennis*. Abdominal petiole slender, $2\frac{1}{2}$ times as long as its greatest width, less than one-third as long as the abdomen, striate; body of abdomen narrowed at base, pointed at apex, over twice as long as its greatest width, with scattered hairs, finely striate at extreme base; composed of five segments; segment 2 (first body segment) fully twice as long as 3—6 united, 3 not greatly longer than 4, 5 very short and transverse, 6 as long as 3; oviduct prominent in the form of a short stylus.

Male.—Differs from the female in that the head, thorax, and abdomen are wholly black; body of abdomen somewhat shorter, not more than twice as long as its greatest width and a little less than three times as long as the petiole, composed of seven segments (excluding the petiole), segment 2 fully four times as long as 3—8 united, 3—7 all very transverse, 8 broadly rounded at apex. Antennae black, the scape clear testaceous, the pedicel brown; 14-jointed; pedicel stout, one-third longer than its greatest width; flagellar joint 1 three times as long as the pedicel, two-thirds as long as the scape, excised on one side at half its length; 2—11 very gradually shortening, 11 two-thirds as long as 1, the apical joint slightly longer than the penultimate.

Habitat.—Victoria: Grampian Mts., Macedon, Belgrave, Healesville, three females, one male collected by F. E. Wilson, two males taken by A. P. Dodd, in October, December, March, April, and June.

Holotype in the collection of Mr. F. E. Wilson. Allotype in the Queensland Museum. Paratypes in the collections of F. E. Wilson and the author.

XENOTOMA CLARIPENNIS, n. sp.

Female.—Length, 3-10 mm. Black; prothorax, scutellum, and posterior half of median lobe of the scutum, chestnut-brown; tegulae bright yellow; antennae black, the scape reddish-yellow, the pedicel brown; legs, including the coxae, clear reddish-yellow, the posterior tarsi dusky.

Head much as in *variipennis*, the frons from lateral aspect rather more strongly convex owing to the antennal prominence being more distinct; smooth with a moderately dense pubescence of fine pale hairs; eyes with a few hairs; mandibles long, crossed, falcate. Antennae 15-jointed; scape slender, a little longer than the next two joints combined; pedicel two-thirds longer than wide; flagellar joints filiform, 1 twice as long as the pedicel, 2—12 gradually shortening, 12 as long as the pedicel, the apical joint one-half longer than the penultimate. Thorax much as in *variipennis*, the pronotal angles sub-acute; pubescence of scutum and scutellum very scattered; propodeum and its carinae as in *variipennis*, but the posterior margin is faintly carinate, and the acute posterior angles project outwardly. Forewings long and broad; sub-hyaline; venation blackish; marginal vein one-half as long as the radial cell. Legs slender, the posterior tibiae and tarsi long and slender; apical spurs of posterior tibiae not very long, the longer spur not more than one-third as long as the basal tarsal joint. Abdominal petiole slender, one-third as long as the body of the abdomen, $2\frac{1}{2}$ times as long as its basal width, strongly striate, with scattered long hairs laterally; body of abdomen over twice as long as its greatest width, with a short basal stalk which continues the outline of the petiole; smooth, with scattered long fine hairs; composed of five segments, segment 2 (first body segment) fully three times as long as 3—6 united, its base striate and with a longer median groove; relative length of 3—6 about as in *variipennis*; oviduct shortly prominent.

Male.—Unknown.

Habitat.—Victoria: Grampian Mts., three females in October, F. E. Wilson.

Holotype in the collection of F. E. Wilson. Paratypes in the collections of F. E. Wilson and the author.

This species is very similar to *variipennis*, but differs in the clear wings, the chestnut-brown scutellum, the clear yellow coxae, the shorter scape in relation to the following joints, and the narrowing of the base of the abdomen.

A female taken at Belgrave, Victoria, in January, by F. E. Wilson, differs in several particulars, and may be a distinct species; the scutellum is black; the posterior coxae are dusky; the abdominal petiole is finely densely striate; the body of the abdomen is not more than twice as long as its greatest width, and is not stalked at base; the distal margin of the forewing is definitely, although lightly, smoky.

XENOTOMA LONGISPINA, n. sp.

Female.—Length, 3.25—3.65 mm. Black, the prothorax and posterior half of median lobe of the scutum deep red, the tegulae yellow; antennae black, the first two joints clear testaceous, the third and fourth brownish-yellow; legs clear testaceous, the posterior coxae and all femora, except at base, fuscous, the posterior tibiae brownish.

Head normal, transverse, the frons rather gently convex, the antennal prominence not large; with a moderately dense pubescence of fine pallid hairs; eyes with a few hairs; mandibles long, crossed, falcate. Antennal scape moderately long, a little longer than the next two joints combined; pedicel one-half longer than wide; flagellum filiform, joint 1 $2\frac{1}{2}$ times as long as the pedicel, two-thirds as long as the scape, 2 two-thirds as long as 1, 2—12 gradually shortening, 12 a little longer than wide, the apical joint a little longer than the penultimate, but a little shorter than 2. Thorax normal, from lateral aspect strongly convex above; pronotum, scutum, and base and lateral margins of scutellum, with a conspicuous golden pubescence; pronotal angles sub-acute; parapsidal furrows deep and complete; basal fovea of scutellum deep; median carina of metanotum delicate, the lateral carinae of the raised median area absent; propodeum smooth, the median carina rather strong, the lateral carinae fine, the posterior margin almost straight, the posterior angles not prominent. Forewings long and broad; sub-hyaline; marginal vein somewhat less than one-half as long as the closed radial cell; stigmal vein curved, slightly longer than the marginal vein; recurrent vein very short. Legs spiny, not as slender as in *variipennis* and *claripennis*; femora distinctly thickened, and with a basal stalk; larger apical spur of the posterior tibiae very long, two-thirds as long as the basal tarsal joint. Petiole of abdomen long, one-half as long as the body of the abdomen, four times as long as its greatest width; body of abdomen somewhat compressed, rather slender, over $2\frac{1}{2}$ times as long as its greatest width, smooth, with a few fine scattered hairs; composed of five segments; segment 2 (first body segment) over twice as long as 3—6 united; 3 twice as long as 4, which is very transverse; 5 as long as 3; 6 somewhat longer than 5; 5 and 6 strongly compressed; base of 2 with a median groove and traces of short striae.

Male.—Length, 2.80 mm. Differs from the female in having the scutum wholly black; the pubescence of the head and thorax is rather sparser; body of abdomen somewhat shorter, $2\frac{1}{2}$ times as long as its greatest width, the apical segments shortened, segment 2 being four times as long as the following segments united, composed of seven segments of which the apical two are curved downward; legs darker, the tibiae and tarsi being dusky-brown. Antennae 14-jointed, about as long as the body; black, the scape and pedicel reddish-yellow, the first flagellar joint reddish at base;

flagellar joint 1 two-thirds as long as the scape, slightly excised on one side, 2 a little shorter than 1, 2—11 gradually shortening, 11 two-thirds as long as 1, the apical joint slightly longer than the penultimate.

Habitat.—Victoria: Eltham, one female in August, F. E. Wilson; Belgrave, one female in January, F. E. Wilson, one male in December, A. P. Dodd.

Holotype in the collection of F. E. Wilson. Allotype in the Queensland Museum. Paratype in the author's collection.

At once differing from *variipennis* and *claripennis* in the very long spine of the posterior tibiae, the stouter femora, the short recurrent vein, and the longer abdominal petiole.

NEOBETYLA SPINOSA Dodd.

Trans. Roy. Soc. South Aust., 1, p. 298, 1926.

This species was erected on a female from the Blackall Range, South Queensland. I have seen a pair collected from tussock grass, Mt. Arapiles, Victoria, October, 1927. In comparison with the holotype, the Victorian female differs somewhat in colour in that the antennae are brownish apically, the legs are deeper reddish, and the abdomen is blackish at base and bears a broad incomplete black band at one-half its length. The male of *Neobetyla* was unknown previously, and it is interesting to learn that, as in the female, the wings are vestigial and the thorax is of the narrow type associated with wingless or semi-wingless forms.

Male.—Head deep red; thorax blackish, the scutum and scutellum red; abdomen black. Thorax as in the female; wings represented by short flaps. Body of abdomen showing five segments; segments 3 and 4 very short, 5 a little longer but transverse, 6 as long as 5, transverse, truncate at apex. Antennae 14-jointed; golden-yellow, the apical joints brownish; a little longer than the body; pedicel short, a little longer than wide; flagellar joints cylindrical, 1 longest, three-fifths as long as the scape, 2—11 gradually shortening, 11 two-thirds as long as 1.

PROSOXYLABIS PICTIPENNIS Dodd.

Proc. Linn. Soc. N.S.W., xl, p. 445, 1920.

This species was described from a single female from Tasmania in the collection of Mr. W. W. Froggatt. A male from Victoria, taken at Belgrave in January by Mr. F. E. Wilson, agrees very well with the original description, and probably represents the same species. The head, thorax (except the bright chestnut scutum), petiole, and body of abdomen are darker, being almost black. The scutellar tooth is stout and acute. Antennae 14-jointed; black, the first two joints red, the third suffused with red; scape moderately long and stout; pedicel a little longer than

wide; flagellar joints filiform, 1 a little more than one-half as long as the scape, excised on one side, 2—11 gradually shortening, 11 one-half as long as 1, the apical joint twice as long as the penultimate.

Family DIAPRIIDAE.

HEMILEXOMYIA ABRUPTA Dodd.

Proc. Linn. Soc. N.S.W., xl, p. 443, 1920.

This species was described from several females reared from pupae of sheep-maggot flies, *Ophyra*, *Calliphora*, from several localities in New South Wales. I have seen four specimens from Victoria, two females collected at Belgrave in December by myself, and two males taken at Belgrave in March and Millgrove in February by Mr. F. E. Wilson. The male, unknown previously, closely resembles the female except in the more slender abdominal petiole and in the antennae. Antennae reddish-yellow, becoming dusky toward apex, as long as the body; 13-jointed; scape long and slender; pedicel stout, hardly longer than wide; flagellar joints filiform, 1 two-thirds as long as the scape, 2 two-thirds as long as 1, a little excised on one side, 3—10 very gradually lengthening, but 10 is hardly as long as 1. As well as the Victorian examples I have collected four males in March at Scone, N.S.W.